

ABSTRACT

The present invention relates to an integrated apparatus for optical monitoring of semiconductor workpiece for process control in the semiconductor production process. Said apparatus comprises a supporting assembly for supporting said workpiece and an optical monitoring unit accommodated opposite the surface of said workpiece and separated therefrom by an optical window. Said optical monitoring unit is mounted for reciprocating movement within a plane parallel to the window for monitoring at least one desired parameter of said semiconductor workpiece and having a pattern recognition and an auto-focusing utilities; and said optical window comprises one or a plurality of relatively small window fragments located in pre-determined locations to enable observation of desired pre-determined portions of said workpiece. The size and shape of said window fragments are selected according to the requirements of transparency in a pre-determined spectral range, mechanical strength and ability of pattern recognition and auto-focusing. The present invention further relates to a method for monitoring semiconductor workpiece through an optical window which is comprised of one or a plurality of relatively small window fragments.

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